



SEQUENCE LISTING

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<120> RPS2 GENE FAMILY, PRIMERS, PROBES, AND
DETECTION METHODS

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<140> US 10/613,765

<141> 2003-07-02

<150> US 09/867,852

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<150> US 09/301,085

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<150> US 08/310,912

<151> 1994-09-22

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Ser	Ile	Thr	Glu	Ile	Pro	Leu	Ser	Ile	Lys	Tyr	Leu	Val	Glu	Leu	Tyr	565	570	575

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 Val Leu Asn Leu Tyr Tyr Ser Tyr Ala Gly Trp Glu Leu Gln Ser Phe
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Lys	Ile	Asn	Gln	Thr	Lys	Ser	Phe	Val	Ile	Tyr	Arg	Ala	Leu	Phe	Gln
		20						25					30		
Ile	Asp	Ile	Arg	Ala	Lys	Ser	Thr	Leu	Tyr	Lys	Tyr	Val	His	Ser	
		35					40					45			

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His	Ser	His	Lys	Thr	Arg	Asp	Tyr	Val	Ile	Ile	Lys	Thr	Lys	Leu	Ser
			20					25					30		
Ala															

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Val	Lys	Glu	Arg	Ala	Arg	Asn	His	Arg	Asn	Gly	Phe	His	Leu	Ile	Ser
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Tyr	Arg	Trp	Leu	Cys	Ser	Gly	Val	Val							
			20					25							

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Ile	Tyr	Glu	Tyr	Gly	Gly	Glu	Lys	Arg	Thr
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Leu	Glu	Gly	His	Thr
1				5

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Pro Asp Phe Thr Asp Pro Thr Arg Arg Ser Arg Gly Thr Lys Leu Leu
1 5 10 15
Lys Ser Cys Gln Arg Val Ala
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Cys Gly Ala Ser Asn Gly Asp
1 5

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<400> 65
Asn Ser Pro Thr Phe Ser Glu Val
1 5

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Ala Ser Gly Thr Glu Asp Ala Asn Glu Glu Glu Ile Pro Gln Leu Phe
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Glu His Trp
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<400> 67
Ala Glu Arg Thr Leu
1 5

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Ser Tyr Gln Asn Arg Trp Arg Val Asn Ser Ser Asn Leu
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Arg Asp Thr His Gln Val Arg Cys Arg Lys Tyr His Asp Asp Gly Thr
1 5 10 15
Gly Phe Gly Ile Ser Gln
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Arg Arg Arg Lys Arg Asn His Trp Cys Leu Trp Thr Trp Trp Gly Trp
1 5 10 15
Glu Asp Asn Val Asn Ala Glu His
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Gln Arg Ala Asp His Lys Arg Thr Ser Val
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<210> 72

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Cys Thr Asp Leu Gly Ser Asn Val Gln Arg Ile Arg Arg Val Tyr Asn
1 5 10 15
Ser Ala Ser Arg Trp Ser Thr Val Gly Phe Ile Leu Gly Arg Glu Gly
20 25 30
Asp Arg Arg Lys Gln Ser Phe Glu Asp Ile Gln Ser Phe Glu Thr Glu
35 40 45
Thr Phe Leu Val Val Ala Arg
50 55

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Cys Leu Gly Arg Asp Arg Leu Gly Glu Asn Trp Ser Ser Ser Thr
1 5 10 15

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Arg Asp Arg Arg Arg Val Asp Pro Cys
1 5

<210> 75
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<400> 75
Gln Gly Lys Gln Met Gln Gly Asp Val His Asp Thr Val Tyr Ser Ile
1 5 10 15
Met Gln Gln Tyr Gly Cys Gly Ile Gln Val Glu Ser Gly Val Ser Gly
20 25 30
Glu Glu Thr Arg Val Gly Ala Val Leu
35 40

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Gly Met Glu Lys Arg Ser Phe Arg Val Ile Ile Asn Ser Pro Ala Arg
1 5 10 15
Gly Asp Tyr Ser Glu
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Met Trp Arg Ile Ala Thr Ser Val Asp His Phe Arg Arg Ser His Gly
1 5 10 15
Ser

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Ile Ser Ser Arg Asp Glu Gly Tyr Glu Leu Cys Ile Cys Pro Phe Glu
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Ile Gln Leu Arg Gln Pro Arg Glu
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Ser Ala Ser Val Leu Phe Leu Val Leu Arg Phe Ile Pro Arg Arg Thr
1 5 10 15
Phe Tyr Arg Asp Arg Ala Ala Cys
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1 5 10 15
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Glu Asn Thr Gly Glu Asp Ala
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<400> 83
 Lys Thr His Met Pro Glu Thr Asp Asn Thr Asp Ala Pro Thr Glu Gly
 1 5 10 15
 Leu Phe Glu Glu Asp Ser Asn Arg Val Phe His Ala Tyr Ala Cys Ser
 20 25 30
 Gln Ser Leu Gly Leu Val Val His Lys Tyr His
 35 40

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 Cys Gly Gln Lys Leu Cys Ile Val Asp Gly Ile
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 Gly Ala Asp Pro Ser
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 Gln Asn Pro Asp Leu Ala
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		20						25					30		

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Lys	Thr	Glu	Ala	Ser	Gly	Pro	Thr	Lys	Asn	Ser	Val	Ser	Ser	Asp	Asp
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Pro	Thr	Arg	Cys	His	Met	Leu	Ala	Glu	Gln	Ala	Arg	Gly	Ser	Glu	Leu
		20						25					30		
Val	Leu	Gln	Leu	Arg	Arg	Leu	Gly	Thr	Ala	Glu	Leu	Trp	Arg	Arg	
		35					40					45			

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Ser	Arg	Arg	Thr	Arg	Ile	Arg
1				5		

<210> 91
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Ile	Gly	Asp	Pro	Lys	Asn	Ser	Leu	Arg	Val	Arg	Cys	Phe	Ala		
		20						25					30		

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Thr	Tyr	Thr	Ala	Ser	Pro	Arg
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<400> 93

Thr Pro Leu Leu Gln Ser Pro Ile Thr His
1 5 10

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<400> 94
Pro Trp Gln Glu Pro Glu Lys Thr
1 5

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Leu Gly Val Pro Gly His Thr Arg Arg Phe
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Leu Ala Ser Glu Ser Arg Gly Ser Asp Val Thr Gln Pro Ser Gln Leu
1 5 10 15
Asn Gln Ser Val Gly Lys Phe Cys Lys Pro Arg Leu Ser Ala Glu Tyr
20 25 30
Pro Leu His Lys His Phe Thr Leu Gln Gln Ala Glu Glu Cys Leu Met
35 40 45
Gly Ser Glu Thr Pro Lys Ala Arg Gly Asp
50 55

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<400> 97
Thr Val Arg Leu Gln Arg Asp Arg Gly Ile Asp Lys Arg Thr Arg Glu
1 5 10 15
Ser Ile Arg Arg Arg Ser Asn Ile Val Pro Lys Pro Glu Asp Leu Glu
20 25 30
Asn

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<400> 98
 Gly Ser Ala Arg Thr Lys Gln His Pro Pro Ile Ser Ile Phe Ile Pro
 1 5 10 15
 Lys Ser

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<400> 99
 Asn Ile Ser His His Lys Leu Pro Gln Ser
 1 5 10

<210> 100
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<400> 100
 Glu Thr Ala Val Ser Gly Glu Glu Asp Pro Asp Glu Leu Ala Asn Ser
 1 5 10 15
 Leu Leu

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<400> 101
 Thr Ser His His
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<400> 102
 Glu Leu Arg Ala Leu Cys Thr Asn Met Ser Ile His Lys Met
 1 5 10

<210> 103
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<400> 103
 Gln Glu Ala Arg Lys Val Val Pro Val Lys Ser Ser Thr Phe His Ile
 1 5 10 15
 Ala Thr Lys Leu Glu Ile Met

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<400> 104
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 1 5

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 cattgttttg aaccaccaac ggacgactta acaagctccc cgagggtgcat gatgaaaatt 180
 gctccagttg ccataaatca cagcccgcctc agcagggagg tcccgtcaca cgcggcaccc 240
 actcaggcaa agcaaaccac ccttcaatct gaagctggcg atttagatgc aagaaaaagt 300
 agcgcttcaa gcccggaaac ccgcgcatta ctgcgtacta agacagtact cgggagacac 360
 aagatagagg ttccggcctt tggaggggtg ttcaaaaaga aatcatctaa gcacgagacg 420
 ggcggttcaa gtgccaacgc agatagtctg agcgtggcct ccgattccac cgaaaaacct 480
 ttgttccgtc tcacgcacgt tccttacgta tcccaaggta atgagcgaat gggatgttgg 540
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 gaagagttgg gtgcaactgt gtataagcac gggccgatta tatgtgggtg gaaaactccg 780
 aatgacagct ggcacatgtc ggtcctcact ggtgtcgata aagagacgtc gtccattact 840
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 cgactcctca gcttccggat cgatcagggtc gcttgccaga gcgcgcttgt ccatgagcat 1140
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 Val Pro Ser His Ala Ala Pro Thr Gln Ala Lys Gln Thr Asn Leu Gln
 20 25 30
 Ser Glu Ala Gly Asp Leu Asp Ala Arg Lys Ser Ser Ala Ser Ser Pro
 35 40 45
 Glu Thr Arg Ala Leu Leu Ala Thr Lys Thr Val Leu Gly Arg His Lys

50		55		60												
Ile	Glu	Val	Pro	Ala	Phe	Gly	Gly	Trp	Phe	Lys	Lys	Lys	Ser	Ser	Lys	
65					70					75					80	
His	Glu	Thr	Gly	Gly	Ser	Ser	Ala	Asn	Ala	Asp	Ser	Ser	Ser	Val	Ala	
			85						90					95		
Ser	Asp	Ser	Thr	Glu	Lys	Pro	Leu	Phe	Arg	Leu	Thr	His	Val	Pro	Tyr	
			100					105					110			
Val	Ser	Gln	Gly	Asn	Glu	Arg	Met	Gly	Cys	Trp	Tyr	Ala	Cys	Ala	Arg	
			115				120					125				
Met	Val	Gly	His	Ser	Val	Glu	Ala	Gly	Pro	Arg	Leu	Gly	Leu	Pro	Glu	
			130			135					140					
Leu	Tyr	Glu	Gly	Arg	Glu	Ala	Pro	Ala	Gly	Leu	Gln	Asp	Phe	Ser	Asp	
145					150					155					160	
Val	Glu	Arg	Phe	Ile	His	Asn	Glu	Gly	Leu	Thr	Arg	Val	Asp	Leu	Pro	
			165					170						175		
Asp	Asn	Glu	Arg	Phe	Thr	His	Glu	Glu	Leu	Gly	Ala	Leu	Leu	Tyr	Lys	
			180				185					190				
His	Gly	Pro	Ile	Ile	Phe	Gly	Trp	Lys	Thr	Pro	Asn	Asp	Ser	Trp	His	
			195			200					205					
Met	Ser	Val	Leu	Thr	Gly	Val	Asp	Lys	Glu	Thr	Ser	Ser	Ile	Thr	Phe	
			210			215					220					
His	Asp	Pro	Arg	Gln	Gly	Pro	Asp	Leu	Ala	Met	Pro	Leu	Asp	Tyr	Phe	
225				230					235						240	
Asn	Gln	Arg	Leu	Ala	Trp	Gln	Val	Pro	His	Ala	Met	Leu	Tyr	Arg		
			245					250						255		

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<400> 107

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Phe	Ile	Leu	Leu	Asn	Lys	Phe	Asn	Arg	Pro	Asn	Ser	Lys	Asp	Ser	Ile	
			20				25					30				
Val	Asn	Asp	Asp	Asp	Asp	Ser	Thr	Ser	Glu	Val	Asp	Ala	Ile	Ser	Asp	
			35				40				45					
Ser	Thr	Asn	Pro	Ser	Gly	Ser	Phe	Pro	Ser	Val	Glu	Tyr	Glu	Val	Phe	
			50			55					60					
Leu	Ser	Phe	Arg	Gly	Pro	Asp	Thr	Arg	Glu	Gln	Phe	Thr	Asp	Phe	Leu	
65				70					75						80	
Tyr	Gln	Ser	Leu	Arg	Arg	Tyr	Lys	Ile	His	Thr	Phe	Arg	Asp	Asp	Asp	
			85					90					95			
Glu	Leu	Leu	Lys	Gly	Lys	Glu	Ile	Gly	Pro	Asn	Leu	Leu	Arg	Ala	Ile	
			100					105					110			
Asp	Gln	Ser	Lys	Ile	Tyr	Val	Pro	Ile	Ile	Ser	Ser	Gly	Tyr	Ala	Asp	
			115			120						125				
Ser	Lys	Trp	Cys	Leu	Met	Glu	Leu	Ala	Glu	Ile	Val	Arg	Arg	Gln	Glu	
			130			135					140					
Glu	Asp	Pro	Arg	Arg	Ile	Ile	Leu	Pro	Ile	Phe	Tyr	Met	Val	Asp	Pro	
145				150						155					160	
Ser	Asp	Val	Arg	His	Gln	Thr	Gly	Cys	Tyr	Lys	Lys	Ala	Phe	Arg	Lys	
			165					170						175		
His	Ala	Asn	Lys	Phe	Asp	Gly	Gln	Thr	Ile	Gln	Asn	Trp	Lys	Asp	Ala	
			180					185					190			
Leu	Lys	Lys	Val	Gly	Asp	Leu	Lys	Gly	Trp	His	Ile	Gly	Lys	Asn	Asp	

				725					730				735				
His	Val	Thr	Lys	Leu	Leu	Leu	Trp	Asn	Met	Lys	Asn	Leu	Val	Ala	Leu		
			740					745					750				
Pro	Ser	Ser	Ile	Cys	Arg	Leu	Lys	Ser	Leu	Val	Ser	Leu	Ser	Val	Ser		
			755				760						765				
Gly	Cys	Ser	Lys	Leu	Glu	Ser	Leu	Pro	Glu	Glu	Ile	Gly	Asp	Leu	Asp		
			770			775					780						
Asn	Leu	Arg	Val	Phe	Asp	Ala	Ser	Asp	Thr	Leu	Ile	Leu	Arg	Pro	Pro		
785				790					795						800		
Ser	Ser	Ile	Ile	Arg	Leu	Asn	Lys	Leu	Ile	Ile	Leu	Met	Phe	Arg	Gly		
				805					810					815			
Phe	Lys	Asp	Gly	Val	His	Phe	Glu	Phe	Pro	Pro	Val	Ala	Glu	Gly	Leu		
			820					825					830				
His	Ser	Leu	Glu	Tyr	Leu	Asn	Leu	Ser	Tyr	Cys	Asn	Leu	Ile	Asp	Gly		
			835				840					845					
Gly	Leu	Pro	Glu	Glu	Ile	Gly	Ser	Leu	Ser	Ser	Leu	Lys	Lys	Leu	Asp		
			850			855					860						
Leu	Ser	Arg	Asn	Asn	Phe	Glu	His	Leu	Pro	Ser	Ser	Ile	Ala	Gln	Leu		
865				870					875						880		
Gly	Ala	Leu	Gln	Ser	Leu	Asp	Leu	Lys	Asp	Cys	Gln	Arg	Leu	Thr	Gln		
				885					890					895			
Leu	Pro	Glu	Leu	Pro	Pro	Glu	Leu	Asn	Glu	Leu	His	Val	Asp	Cys	His		
			900					905					910				
Met	Ala	Leu	Lys	Phe	Ile	His	Tyr	Leu	Val	Thr	Lys	Arg	Lys	Lys	Leu		
			915				920					925					
His	Arg	Val	Lys	Leu	Asp	Asp	Ala	His	Asn	Asp	Thr	Met	Tyr	Asn	Leu		
			930			935					940						
Phe	Ala	Tyr	Thr	Met	Phe	Gln	Asn	Ile	Ser	Ser	Met	Arg	His	Asp	Ile		
945				950					955					960			
Ser	Ala	Ser	Asp	Ser	Leu	Ser	Leu	Thr	Val	Phe	Thr	Gly	Gln	Pro	Tyr		
			965						970					975			
Pro	Glu	Lys	Ile	Pro	Ser	Trp	Phe	His	Gln	Gly	Trp	Asp	Ser	Ser			
			980				985					990					
Val	Ser	Val	Asn	Leu	Pro	Glu	Asn	Trp	Tyr	Ile	Pro	Asp	Lys	Phe	Leu		
			995			1000						1005					
Gly	Phe	Ala	Val	Cys	Tyr	Ser	Arg	Ser	Leu	Ile	Asp	Thr	Thr	Ala	His		
			1010			1015					1020						
Leu	Ile	Pro	Val	Cys	Asp	Asp	Lys	Met	Ser	Arg	Met	Thr	Gln	Lys	Leu		
1025				1030					1035						1040		
Ala	Leu	Ser	Glu	Cys	Asp	Thr	Glu	Ser	Ser	Asn	Tyr	Ser	Glu	Trp	Asp		
				1045					1050					1055			
Ile	His	Phe	Phe	Val	Pro	Phe	Ala	Gly	Leu	Trp	Asp	Thr	Ser	Lys			
			1060				1065					1070					
Ala	Asn	Gly	Lys	Thr	Pro	Asn	Asp	Tyr	Gly	Ile	Ile	Arg	Leu	Ser	Phe		
			1075			1080						1085					
Ser	Gly	Glu	Glu	Lys	Met	Tyr	Gly	Arg	Leu	Arg	Leu	Tyr	Lys	Glu	Gly		
			1090			1095					1100						
Pro	Glu	Val	Asn	Ala	Leu	Leu	Gln	Met	Arg	Glu	Asn	Ser	Asn	Glu	Pro		
1105				1110					1115						1120		
Thr	Glu	His	Ser	Thr	Gly	Ile	Arg	Arg	Thr	Gln	Tyr	Asn	Asn	Arg	Thr		
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Ser	Phe	Tyr	Glu	Leu	Ile	Asn											
			1140														

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<213> Arabidopsis thaliana

<400> 109

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			20					25					30		
Ser	Glu	Ser	Tyr	Val	Glu	His	Asp	Glu	Ala	Cys	Gly	Leu	Ile	Ala	Arg
		35					40					45			
Val	Ser	Val	Met	Ala	Tyr	Lys	Ala	Glu	Tyr	Val	Ile	Asp	Ser	Cys	Leu
	50					55					60				
Ala	Tyr	Ser	His	Pro	Leu	Trp	Tyr	Lys	Val	Leu	Trp	Ile	Ser	Glu	Val
65					70				75					80	
Leu	Glu	Asn	Ile	Lys	Leu	Val	Asn	Lys	Val	Val	Gly	Glu	Thr	Cys	Glu
			85					90						95	
Arg	Arg	Asn	Thr	Glu	Val	Thr	Val	His	Glu	Val	Ala	Lys	Thr	Thr	Thr
			100					105						110	
Asn	Val	Ala	Pro	Ser	Phe	Ser	Ala	Tyr	Thr	Gln	Arg	Ala	Asn	Glu	Glu
		115					120					125			
Met	Glu	Gly	Phe	Gln	Asp	Thr	Ile	Asp	Glu	Leu	Lys	Asp	Lys	Leu	Leu
	130					135					140				
Gly	Gly	Ser	Pro	Glu	Leu	Asp	Val	Ile	Ser	Ile	Val	Gly	Met	Pro	Gly
145					150					155				160	
Leu	Gly	Lys	Thr	Thr	Leu	Ala	Lys	Lys	Ile	Tyr	Asn	Asp	Pro	Glu	Val
			165					170						175	
Thr	Ser	Arg	Phe	Asp	Val	His	Ala	Gln	Cys	Val	Val	Thr	Gln	Leu	Tyr
			180					185					190		
Ser	Trp	Arg	Glu	Leu	Leu	Leu	Thr	Ile	Leu	Asn	Asp	Val	Leu	Glu	Pro
	195						200					205			
Ser	Asp	Arg	Asn	Glu	Lys	Glu	Asp	Gly	Glu	Ile	Ala	Asp	Glu	Leu	Arg
	210				215						220				
Arg	Phe	Leu	Leu	Thr	Lys	Arg	Phe	Leu	Ile	Leu	Ile	Asp	Asp	Val	Trp
225					230					235				240	
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Cys	Pro	Pro	Glu	Leu	Glu	Asp	Val	Gly	Phe	Glu	Ile	Ser	Lys	Ser	Cys
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			325					330						335	
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	355				360						365				
Ser	Tyr	Lys	Asn	Leu	Pro	His	Tyr	Leu	Lys	Pro	Cys	Phe	Leu	Tyr	Phe
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Gln	Ala	Ile	Thr	Asp	Leu	Glu	Thr	Ala	Ile	Gly	Asp	Leu	Lys	Ala	Ile
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145					150					155				160	
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catctcgctc	taatgtccgc	tctttactat	tcaatgcaat	tgatccagat	aacttgttat	2520
ggccgcgtga	tatctccttc	attttttgaga	gcttcaagct	tgtaaagtgt	ttggatttgg	2580
aatcattcaa	cattgggtgg	acttttccca	ttgaaacaca	atatctaatt	cagatgaagt	2640
actttgcggc	ccaaaactgat	gcaaattcaa	ttccttcac	tatagctaag	cttgaaaatc	2700
ttgagacttt	tgtcgtgaaga	ggattgggag	gagagatgat	attaccttgt	tcactttctga	2760
agatggtgaa	attgaggcat	atacatgtaa	atgatcgggt	ttcttttgg	ttgcgtgaga	2820
acatggatgt	tttaactgg	aactcacaat	aacctaattt	ggaaaccttt	tctactccgc	2880
gtctctttta	tggtaaagac	gcagagaaga	ttttgaggaa	gatgccaaaa	ttgagaaaat	2940
tgagttgcat	attttcaggg	acatttggtt	attcaaggaa	attgaagggt	aggtgtgttc	3000
gttttcccaa	attagatttt	ctaagtcacc	ttgagtcctt	caagctgggt	tcgaacagct	3060
atccagccaa	acttctctac	aagttcaatt	tcccctcgca	actaagggaa	ctgactttat	3120
caaagtctcg	tctactttgg	acccaaattt	cgatcattgc	agaactgccc	aacttggtga	3180
ttcttaagtt	attgctcaga	gcctttgaag	gggatcactg	ggaagtgaaa	gattcagagt	3240
tcctagaact	caaatactta	aaactggaca	acctcaaagt	tgtacaatgg	tccatctctg	3300
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tcccttctcg	ttttgaagat	gctgtttgtc	taaataagat	tgagggtgaac	tggtgcaact	3420
ggaatgttgc	caattcagcc	caagatattc	aaactatgca	acatgaagtt	atagcaaagt	3480
attcattcac	agttactata	cagcctccag	attggtctaa	agaacagccc	cttgactctt	3540
agcaaagggt	tgttcttgct	gtgttcaccc	aagtgcattt	aacattttatt	cattttgttt	3600
tacaccagaa	catgtttatt	ttgctagtat	tacttgatac	attaaaagaa	atcgaaactca	3660
tatttctgct	acagtcttaa	cttttcttgg	gcttacttga	ggtctagatt	agatcaatgg	3720
ttcatgtaat	ttttaattca	ctgtttcatt	caactgtctt	atgatagttg	tgaaatgaca	3780
atattgttat	ccctagccaa	atttattatg	ttcaaatgaa	aactgatgtc	acaactactt	3840
ttttgtgaaa	tgtttttgaa	ttttttgcta	taaaattgac	gaattgacag	cttctatatt	3900
tgtcagctaa	actctttgtc	accagaagtg	tatttagaat	tactgtgggt	ttatgaaaga	3960
gttctgtaga	attttatgct	tttgcagaat	atagtttaaa	acaacaacac	ttctctgttt	4020
cagagatagc	agaagctaaa	gttcaaggca	ttttgtttat	ttctagaaca	agtggagttc	4080
ttatgttgaa	ttcttgaaaa	gaagaagaat	caggagcagg	taaagttatc	tctttttatg	4140
tttttcttct	tttagatggt	atttcttcat	cttgaacgtg	aacaccgctg	aaagcatttt	4200
aataaaaccg	gagagaaaaa	taagatcttt	ttatataaag	cattatcatg	taaatatgcc	4260
taaatccata	tggtagaact	gtttgacaaa	atgatagaga	ggggagtttt	atagtataag	4320
taaaacagga	ttgagaaaaa	aatccttgca	cgattttcaa	tttctggcca	catcacaatg	4380
tgtgtcaaa	ttccctctt	taagtggaa	aagcaatcag	aaaagctcat	tcttatcggt	4440
gacataccaa	taccagctga	ctgtctcatc	ttgggttaact	tagccttgct	tacttagact	4500
attagattag	ttactaatga	actggtaaat	tggaaaccaa	tgtagtttag	ttgatgagct	4560
ggtagacatg	tatatatgaa	gatacacgcg	taactttagt	cgatgggttaa	tttttcat	4620
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atgtaaaaaa	tggagggttct	acgagcggta	catgtaaagag	ttttgtgcac	acaagaggtt	4800
ctgagacttg	aaccatccat	gtccaaggca	gttgagatgc	tagtaaaaga	agaagaagat	4860
gagcctgcac	taattaatct	ccctgtatga	atgagagaat	gagaaaaaga	tggagcttca	4920
tgaacaaaaa	gttacctttt	ttttttcttc	ttaatggcat	tactttgaag	cacatgtttg	4980
ttagttgtaa	attgtaatgg	tgaagtgttt	gtaaatatag	ggagtgatat	ttgaaagaat	5040
ggttgtgtta	tctttacaaa	ccggaatcat	ttctgtataa	ttttcttctg	taatttttgg	5100
tttcggttta	ttcattactc	atttcagtaa	gctt			5134

<210> 158
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 158
 ggnatgggng gnntnggnaa racnac 26

 <210> 159
 <211> 20
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(20)
 <223> n = A,T,C or G

 <400> 159
 ncgngwngtn akdawncgna 20

 <210> 160
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

 <400> 160
 ggwntbggwa arachac 17

 <210> 161
 <211> 33
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(33)
 <223> n = A,T,C or G

 <400> 161
 nrynrdngtn gtyttncna nccnssnrk ncc 33

 <210> 162
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

<400> 162
 ggnmynssng gnntnggnaa racnac 26

<210> 163
 <211> 13
 <212> DNA
 <213> Arabidopsis thaliana

<400> 163
 tygaygayrt bra 13

<210> 164
 <211> 16
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(16)
 <223> n = A,T,C or G

<400> 164
 tyccavayrt crtcna 16

<210> 165
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

<400> 165
 vymnayrtcr tcnadnavna nnarna 26

<210> 166
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

<400> 166
 wwnmrrdtny tnntnbtnht ngayga 26

<210> 167
 <211> 21
 <212> DNA

<213> Arabidopsis thaliana
 <220>
 <221> misc_feature
 <222> (1)...(21)
 <223> n = A,T,C or G
 <400> 167
 ncgngwngtn akdawncgng a 21
 <210> 168
 <211> 21
 <212> DNA
 <213> Arabidopsis thaliana
 <220>
 <221> misc_feature
 <222> (1)...(21)
 <223> n = A,T,C or G
 <400> 168
 ncknswngtn addatdaatn g 21
 <210> 169
 <211> 12
 <212> DNA
 <213> Arabidopsis thaliana
 <220>
 <221> misc_feature
 <222> (1)...(12)
 <223> n = A,T,C or G
 <400> 169
 narnggnarn cc 12
 <210> 170
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana
 <400> 170
 ggwytbccwy tbgchyt 17
 <210> 171
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana
 <220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G
 <400> 171
 ardgcvvarwg gvarncc 17
 <210> 172

<211> 24	
<212> DNA	
<213> Arabidopsis thaliana	
<220>	
<221> misc_feature	
<222> (1) ... (24)	
<223> n = A,T,C or G	
<400> 172	
nrnnwynavn shnarnggna rncc	24
<210> 173	
<211> 17	
<212> DNA	
<213> Arabidopsis thaliana	
<220>	
<221> misc_feature	
<222> (1) ... (17)	
<223> n = A,T,C or G	
<400> 173	
ggnytnccny tndsnbt	17
<210> 174	
<211> 20	
<212> DNA	
<213> Arabidopsis thaliana	
<400> 174	
arrttrtrcrt adswrawytt	20
<210> 175	
<211> 20	
<212> DNA	
<213> Arabidopsis thaliana	
<220>	
<221> misc_feature	
<222> (1) ... (20)	
<223> n = A,T,C or G	
<400> 175	
arnyyntyrt ansrnanny	20
<210> 176	
<211> 20	
<212> DNA	
<213> Arabidopsis thaliana	
<220>	
<221> misc_feature	
<222> (1) ... (20)	
<223> n = A,T,C or G	
<400> 176	
rrnwthwsnt ayranrvnyt	20

<210> 177
 <211> 20
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(20)
 <223> n = A,T,C or G

 <400> 177
 gntnttytnw snttymgrgg 20

 <210> 178
 <211> 23
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(23)
 <223> n = A,T,C or G

 <400> 178
 ccnathhtyt ayrwbgtnga ycc 23

 <210> 179
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

 <400> 179
 gtnggnathg ayrmnca 17

 <210> 180
 <211> 21
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(21)
 <223> n = A,T,C or G

 <400> 180
 raarcangcd atrtcnarra a 21

 <210> 181
 <211> 20
 <212> DNA
 <213> Arabidopsis thaliana

 <220>

<221> misc_feature
 <222> (1)...(20)
 <223> n = A,T,C or G

 <400> 181
 ttyytngaya thgcntgytt 20

 <210> 182
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 182
 cccatrtcy knadnwrrtc rtgcat 26

 <210> 183
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 183
 atgcaygayy wnhtnmrrga yatggg 26

 <210> 184
 <211> 15
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(15)
 <223> n = A,T,C or G

 <400> 184
 narnswytyn arytt 15

 <210> 185
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

 <400> 185
 wsnaarytnr arwsnyt 17

<210> 186
 <211> 21
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(21)
 <223> n = A,T,C or G

<400> 186
 dwwytcnarn swnyknarnc c

21

<210> 187
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

<400> 187
 ggnytnmrnw snytnga

17

<210> 188
 <211> 13
 <212> PRT
 <213> Arabidopsis thaliana

<400> 188
 Leu Lys Phe Ser Tyr Asp Asn Leu Glu Ser Asp Leu Leu
 1 5 10

<210> 189
 <211> 16
 <212> PRT
 <213> Arabidopsis thaliana

<400> 189
 Gly Val Tyr Gly Pro Gly Gly Val Gly Lys Thr Thr Leu Met Gln Ser
 1 5 10 15

<210> 190
 <211> 14
 <212> PRT
 <213> Arabidopsis thaliana

<400> 190
 Gly Gly Leu Pro Leu Ala Leu Ile Thr Leu Gly Gly Ala Met
 1 5 10

<210> 191
 <211> 11

<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (2)...(2)
<223> Xaa is Met or Pro

<221> VARIANT
<222> (3)...(3)
<223> Xaa is Gly or Pro

<221> VARIANT
<222> (5)...(5)
<223> Xaa is Ile, Leu or Val

<221> VARIANT
<222> (10)...(10)
<223> Xaa is Ile, Leu or Thr

<221> VARIANT
<222> (11)...(11)
<223> Xaa is Ala or Met

<400> 191
Gly Xaa Xaa Gly Xaa Gly Lys Thr Thr Xaa Xaa
1 5 10

<210> 192
<211> 11
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(11)
<223> Xaa at 1 is Phe or Lys; Xaa at 2 is Arg or Lys;
Xaa at 3 is Ile, Val or Phe; Xaa at 5 is Ile, Leu
or Val; Xaa at 6 is Ile or Leu; Xaa at 7 is Ile or
Val; Xaa at 10 is Ile, Leu or Val; Xaa at 11 is
Asp or Trp;

<400> 192
Xaa Xaa Xaa Leu Xaa Xaa Xaa Asp Asp Xaa Xaa
1 5 10

<210> 193
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa at 1 is Ser or Cys; Xaa at 2 is Arg or Lys;
Xaa at 3 is Phe, Ile or Val; Xaa at 4 is Ile or

Met; Xaa at 5 is Ile, Leu or Phe; Xaa at 7 is Ser,
Cys or Thr;

<400> 193

Xaa Xaa Xaa Xaa Thr Xaa Arg

1

5

<210> 194

<211> 8

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> VARIANT

<222> (1)...(8)

<223> Xaa at 5 is Thr, Ala or Thr; Xaa at 6 is Leu or
Val; Xaa at 7 is Ile, Val or Lys; Xaa at 8 is Val
or Thr;

<400> 194

Gly Leu Pro Leu Xaa Xaa Xaa Xaa

1

5

<210> 195

<211> 7

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> VARIANT

<222> (1)...(7)

<223> Xaa at 1 is Lys or Gly; Xaa at 2 is Ile or Phe;
Xaa at 5 is Asp or Lys; Xaa at 6 is Ala, Gly or
Asn;

<400> 195

Xaa Xaa Ser Tyr Xaa Xaa Leu

1

5

<210> 196

<211> 4

<212> PRT

<213> Arabidopsis thaliana

<400> 196

Asn Ser His Arg

1

<210> 197

<400> 197

000

<210> 198
<211> 4
<212> PRT
<213> Arabidopsis thaliana

<400> 198
Thr Gly Asp Leu
1

<210> 199
<211> 4
<212> PRT
<213> Arabidopsis thaliana

<400> 199
His Gly Thr Tyr
1

<210> 200
<211> 11
<212> PRT
<213> Arabidopsis thaliana

<400> 200
Arg Met Ser His Gly Phe Arg Asn Ser Gln Ser
1 5 10

<210> 201
<211> 27
<212> PRT
<213> Arabidopsis thaliana

<400> 201
Gly Glu Met Val Glu Ser Thr Gly Lys Arg Ser Thr Lys Arg Arg Ala
1 5 10 15
Leu Leu Phe Thr Ala Leu Cys Ser Lys Leu Ile
20 25

<210> 202
<211> 9
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(9)
<223> Xaa at position 5 is Met or Asp

<400> 202
Pro Ile Phe Tyr Xaa Val Asp Pro Ser
1 5

<210> 203

<211> 6
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(6)
<223> Xaa at position 5 is Asp or Thr

<400> 203
Val Gly Ile Asp Xaa His
1 5

<210> 204
<211> 9
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(9)
<223> Xaa at position 1 is Gln or Leu; Xaa at position 2
is Leu or Ile; Xaa at position 3 is Arg or Gln.

<400> 204
Met His Asp Xaa Xaa Xaa Asp Met Gly
1 5

<210> 205
<211> 6
<212> PRT
<213> Arabidopsis thaliana

<400> 205
Ser Lys Leu Lys Ser Leu
1 5

<210> 206
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa at position 3 is Arg or His; Xaa at position 7
is Ile or Tyr.

<400> 206
Gly Leu Xaa Ser Leu Glu Xaa Leu
1 5

<210> 207
<211> 6

<212> PRT
<213> Arabidopsis thaliana

<400> 207
Ser Lys Leu Lys Ser Leu
1 5

<210> 208
<211> 7
<212> PRT
<213> Arabidopsis thaliana

<400> 208
Lys Phe Ser Tyr Asp Asn Leu
1 5

<210> 209
<211> 23
<212> PRT
<213> Arabidopsis Thalia

<220>
<221> VARIANT
<222> 2,3,5,6,8,9,11,12,14,16-9,21,22
<223> Xaa=any amino acid

<221> VARIANT
<222> 4,15,20,23
<223> Xaa=L or I or V

<400> 209
Pro Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Xaa
1 5 10 15
Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 210
<211> 23
<212> PRT
<213> Yeast

<220>
<221> VARIANT
<222> 2,3,5,6,8,9,11,12,14,16,17,19,21,22
<223> Xaa= any amino acid

<221> VARIANT
<222> 4,20,23
<223> Xaa=L or I or V

<400> 210
Pro Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Leu Xaa
1 5 10 15
Xaa Asn Xaa Xaa Xaa Xaa Xaa
20

<210> 211
 <211> 12
 <212> PRT
 <213> Arabidopsis thaliana

 <220>
 <221> VARIANT
 <222> 2,3,5,6,8,9,11
 <223> Xaa=any amino acid

 <221> VARIANT
 <222> 1
 <223> Xaa=I or L or V

 <221> VARIANT
 <222> 10
 <223> Xaa=I or L

 <400> 211
 Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Xaa Xaa Leu
 1 5 10

<210> 212
 <211> 7
 <212> PRT
 <213> Arabidopsis thaliana

 <220>
 <221> VARIANT
 <222> 1
 <223> Xaa=I or R

 <221> VARIANT
 <222> 2,5-7
 <223> Xaa=any amino acid

 <400> 212
 Xaa Xaa Asp Leu Xaa Xaa Xaa
 1 5

<210> 213
 <211> 8
 <212> PRT
 <213> Arabidopsis thaliana

 <400> 213
 Gly Pro Gly Gly Val Gly Lys Thr
 1 5

<210> 214
 <211> 16
 <212> PRT
 <213> Arabidopsis thaliana

<400> 214

Thr	Tyr	Gly	Ala	Tyr	Gly	Ala	Tyr	Arg	Thr	Asx	Tyr	Arg	Asx	Arg	Ala
1				5					10					15	